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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,622	06/25/2003	Yutaka Oka	FSF-031381	2391

37398 7590 07/17/2006

TAIYO CORPORATION  
401 HOLLAND LANE  
#407  
ALEXANDRIA, VA 22314

EXAMINER

CHEA, THORL

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/602,622

Applicant(s)

OKA ET AL.

Examiner

Thorl Chea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on April 24, 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is responsive to the communication on April 24, 2006; claims 1-10, 13-20 are pending in this instant application; claims 11-12 have been canceled.
2. The rejection of claims 1-9 under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al (US 2003/0224307) is withdrawn in view of the certified English translation of the foreign priority document provided on May 12, 2006; and the rejection of claims 1-9 under the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/412,214 in view of Kong et al (US Patent No. 6,171,767) is withdrawn in view of the Terminal Disclaimer provided on May 12, 2006.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed fails to provide support for the amount of formula (H) in the range of  $1 \times 10^{-4}$  mole to 0.8 mole per mole of the silver halide in claim 1. The specification on page 82, first paragraph discloses amount of formula (H) in the range of  $1 \times 10^{-4}$  mole to 0.8 mole per mole of non-photosensitive silver salt, not silver halide. Therefore, the ranges as claimed raises the issue of new matter.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takiguchi (US 2001/0041313 A1), Matsumoto et al (US Patent No. 5,958,668) and Siga et al (US Patent No. 4,332,889).

Takiguchi discloses a photothermographic material substantially as claimed. See mercapto compound on pages 3-7, compound C-2, C-4, C-15, C-17, C-25, C-27, C-31, C-45, C-46, C-53, C-62 and C-64; the amount thereof within the range of  $10^{-8}$  to  $10^{-2}$  mole/mole of silver halide on pages 8, [0027]; the organic polyhalogen compound on page 12, [0043] wherein the amount thereof is from 0.001 to 0.1 mol/m<sup>2</sup>; the silver halide including silver bromiodide or silver iodide having grain size from 0.01 to 0.17 microns (i.e. 10 nm to 170 nm) on page 17, [0055], [0057]. Matsumoto et al in the abstract discloses the use of an antifoggant in amount of 10 mole % to 40 mole % (i.e. 0.1 mole to 0.4 mole) based on the organic silver salt and the antifoggant includes the organic polyhalogen compound and mercapto compound. See abstract; column 2, formula (A) and column 13, compound E-3, E-4. Siga disclose in column 6, lines 43-68 disclose the relative amount of the silver iodide with respect to silver bromide to satisfy the sensitivity condition and storage condition. It is disclosed that "from the view point of sensitivity of image forming material, the silver halide is desired to contains, beside silver iodide, at least 2 mole %, based on silver halide component, silver bromide and/or silver chloride, although the silver

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halide may include only silver iodide, i.e. 100 mole % of silver iodide. Furthermore, from view point of stability of the raw image forming material, it is desired that silver halide component contains, besides silver iodide, silver bromide than silver chloride. Therefore, the most preferred silver halide component consists of silver iodide and silver bromide. In this case, silver iodide and silver bromide may be provided in either a mixture thereof or mixed crystals thereof. The molar ratio of silver iodide to silver bromide may be preferably 30/70 to 98/2, more preferably 50/50 to 95/5."

Takiguchi discloses a photothermographic material contains a mercapto compound, the silver bromoiodide or silver iodide among the known silver halide, and an organic polyhalogen compound. The amount of mercapto compound is  $10^{-8}$  to  $10^{-2}$  mole/mole of silver halide; silver iodide which is silver halide having 100 mole % of silver iodide; and the polyhalogenate compound 0.001 to 0.1 mol/m<sup>2</sup>. Takiguchi fails to express the amount of organic polyhalogen compound in term of silver or to exemplify the use of silver iodide or silver halide containing silver iodide more than 10 mole %. However, the amount of organic polyhalogen compound is taught in Matsumoto et al and the use of silver halide having silver iodide more than 10 mole % is taught in Siga et al. Matsumoto et al in column 2, lines 4-7 discloses that if the content of the antifoggant is less than 10 mole % based on the organic silver salt, the antifoggant effect is insufficient. An amount exceeding 40 mole % unfavorably deteriorate the dynamic of color development. Siga et al discloses the composition of the silver iodide and silver bromide to provide a photothermographic material with improved spectral sensitivity as well as storage stability. Therefore, it would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use silver halide having silver iodide content taught in Siga et al

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to provide a photothermographic material with excellent enough in both stability and sensitivity I combination with the organic polyhalogen compound within the amount taught in Matsumoto et al to provide a photothermographic material with sufficient antifoggant effect, and thereby provide a material as claimed.

3. Claims 10, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ito (US Patent No. 6,376,167) and Siga et al (US Patent No. 4,332,889).

Ito discloses a photothermographic substantially as claimed. See column 19 lines 30-67 which discloses silver halide includes silver iodide having grain size of 10 nm to 80 nm. See column 20 wherein the silver halide may contains ion of metals belong to groups 6-11 such as W, Fe, Co, Ni, Cu, Rh, Pd, Re, Os, Ir, Pt and Au; see also the noble material as chemical sensitizer in column 21, lines 45-67, to column 22, lines 1-11; in column 26, lines 9-14, it is disclose that the metal ions or complex ions may be added several times by dividing the added amount. Siga et al in column 6, lines 60-68 discloses a silver iodobromide having molar ratio of silver iodide to silver bromide within the range of 30/70 to 98/2 to provide a heat developable material to have improved spectral sensitivity as well as storage stability.

Ito may not discloses the pair of metal claimed in the present claimed invention, but discloses in column 20, lines 59-65 that one type of these metal ions mat be employed and the same type of the metals or the different type of metals may be employed in combination of two or more types.

It would have been obvious to the worker of ordinary skill in the art at the time the invention was iodide or silver bromiodide taught Ito in combination with the metal ions taught therein including the pair thereof with an expectation of providing a photothermographic

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material with an increased sensitivity and storage stability, and thereby provide an invention as claimed. The worker would have selected the silver iodide or silver halide having high iodide content due to the teaching disclose in Siga et al that the silver halide having silver iodide and silver bromide ratio from 30/70 to 98/2 to provide a heat developable material with excellent enough in both stability and sensitivity .

4. Claim 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. None of the applied prior art of record teach or fairly suggest the limitation therein. Toya et al discloses a silver halide core/shell grain but does not discloses the use of different metal in the core and in the shell presented in the claims.

***Response to Arguments***

Applicant's arguments filed April 24, 2004 have been fully considered but they are not persuasive because of the rejection set forth above. The amount of organic polyhalogen compound and the mercapto compound have been known in the art such as shown in the new ground of rejection above. The applicants argue about the unexpected results of the present claimed invention. However, the applicants fails to clearly explain as to why the results would have been found unexpected by the worker of ordinary skill in the art at the time the invention was made. "[A]pplicants have the burden of explaining the data in any declaration they proffer as evidence of non-obviousness." Ex parte Ishizaka, 24 USPQ2d 1621, 1624 (Bd. Pat. App. & Inter. 1992). The silver halide used in Table I in the Declaration on April 4, 2006 is related to the use of a pure silver iodide which is not commensurate with the scope of the claims 10, 13-20 invention. The photosensitive silver halide claimed in the present invention contains silver

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iodide from 10 mole % to 100 mole %. The applicants fail to extrapolate the results using the pure silver iodide to the silver halide having silver iodide content less than 100 mole %. Therefore, the criticality of the silver iodide content within the ranges 10 mole % to 100 mole % cannot be determined. The silver halide having 100 mole % silver iodide is the most preferred range. Moreover, the amount of metal pair used in the claimed invention is within the applicants' preferred ranges while the amount of the metal pair presented in the claimed is unlimited.

The Declaration submitted on April 24, 2006 fails to overcome the rejection of claims 1-9 above since it is irrelevant to newly applied prior art namely Takiguchi (US 2001/0041313 A1). Moreover, the criticality of the whole range of amount of organic polyhalogen compound from  $1 \times 10^{-4}$  mole to 0.8 mole and the mercapto compound from  $1 \times 10^{-4}$  to  $5 \times 10^{-1}$  mole has not been demonstrate. The comparative value of the upper limit and the lower limit of the range has not been provided to compare the value within the range. Therefore, the criticality of the claimed range cannot be determined.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37




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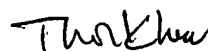
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tchea   
July 6, 2006



Thorl Chea  
Primary Examiner  
Art Unit 1752